

Abstract

A nitrogen oxide decomposing element and a nitrogen oxide decomposing apparatus can perform a treatment at a relatively low temperature without using a material, which is suspected to have influence on the environment and human body, as an oxidant or a catalyst. There is proposed a nitrogen oxide decomposing element 1 including a conductive solid electrolyte film 2 for selectively allowing a hydrogen ion to pass through, a first electrode layer 3 made of an electronic conductivity base material and a catalyst for accelerating anodic oxidation, a second electrode layer 4 made of an electronic conductivity base material and a catalyst for accelerating cathodic reduction, and a platinum group catalyst 6 supported by a porous metal oxide 5 disposed to be adjacent to the second electrode layer 4. A low-power consumption nitrogen oxide decomposing apparatus which can efficiently use electric energy is obtained by locating a nitrogen oxide sensor 14 in the vicinity of the platinum group catalyst 6 supported by the metal oxide 5, and controlling the magnitude of a current flowing between the first and the second electrode layers 3 and 4 and the energization time by a power source/control device 15 in accordance with the concentration of nitrogen oxide detected by the nitrogen oxide sensor 14.